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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,536	08/19/2003	Seung-Cheol Lee	678-1142 (P10825)	4280

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EXAMINER

LEMMA, SAMSON B

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/643,536	Applicant(s) LEE ET AL.	
	Examiner Samson B. Lemma	Art Unit 2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. **Claims 1-16** have been examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119 (a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnamurthy (hereinafter referred as **Krish**) (U.S. Patent No 6,496,607 B1) (filed on April 21, 1999) in view of **Kato** (hereinafter referred as **Kato**) (U. S. Patent No. 6,744,927 B1) (filed on December 22, 1999)
5. **As per claims 1-5, and 9-13 Krish** discloses a method of providing access control a video encoder for encoding a video signal through discrete cosine transform (DCT) and motion estimation, [column 1, lines 29-30 and Column 3, lines 14-24] (On column 1, lines 29-30, video sequence encoding, furthermore on column 3, lines 14-24, the following is disclosed. "The apparatus 100 is an encoder or a portion of a more complex block-based motion compensated coding system. The apparatus 100 comprises a preprocessing module 120, an input image processing module 110, a **motion estimation module (ME) 140**, a motion compensation module 150, a mode decision module 157, a rate control module 130, a **transform module, (e.g., a DCT**

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module) 160, a quantization module 170, a coder, (e.g., a variable length coding module) 180, a buffer 190, an inverse quantization module 175, an inverse transform module (e.g., an inverse DCT module) 165, a subtractor 115 and a summer 155.)

the video encoder [figure 1, ref. Num "100"] comprising:

- **a motion estimator for estimating motion of an individual from an input video signal, and calculating a motion vector of the individual;**
[Column 3, lines 14-24 and figure 1, ref. Num "140"] (a motion estimation module (ME) 140)

- **a speaker region detector for detecting a speaker region representing a contour of a speaker from the motion vector;**[Column 2, lines 14-23] (Additionally, other parameters can be used in the generation or refinement of the importance map. Namely, a voice detector can be employed to detect and associate a voice to a speaker in the image sequence, thereby classifying the region in the image that encompasses the identified speaker as important or a region of interest.)

- **a DCT section for calculating DCT coefficients by DCT-transforming a video signal outputted from the motion estimator;** [column 6, lines 14-28]
(The predictive residual signal is passed to a transform module, e.g., a DCT module 160 or a discrete wavelet transform (DWT). The DCT module then applies a forward discrete cosine transform process to each block of the predictive residual signal to produce a set of eight (8) by eight (8) block of DCT coefficients. The resulting 8.times.8 block of DCT coefficients is received by quantization (Q) module 170, where the DCT coefficients are quantized. The process of quantization reduces the accuracy with which the DCT coefficients are represented by dividing the DCT coefficients by a set of quantization values

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or scales with appropriate rounding to form integer values. By quantizing the DCT coefficients with this value, many of the DCT coefficients are converted to zeros, thereby improving image compression efficiency.)

- **an adaptive bit rate controller for differentially setting a quantization step size for quantization based on the speaker region;**[column 1, lines 13-14 and column 6, lines 45-61] (On column 1, lines 13-14, "selective input image formation and adaptive allocation of processing resources, "bit allocation is disclosed. Furthermore on column 6, lines 45-61, the following has been disclosed. "The rate control module 130 serves to monitor and adjust the bitrate of the data stream entering the FIFO buffer 190 to prevent overflow and underflow on the decoder side (within a receiver or target storage device, not shown) after transmission of the data stream. In one embodiment of the present invention, the process of quantization is adjusted in accordance with the importance information received from the importance map generator 127 to effect bit allocation. Namely, quantization is an effective tool to control the encoder to match its output to a given bitrate (rate control), i.e., a higher quantization scale reduces the number of coding bits, whereas a lower quantization scale increases the number of coding bits. Since a different quantization value can be selected for each macroblock, for each sub-block or even for each individual DCT coefficient, the amount of coding bits can be tightly controlled by proper selection of the quantization scale.")

and

- **A quantizer for quantizing the DCT coefficients according to the quantization step size and the differential quantization table.** [column 6, lines 19-38 and column 6, lines 41-61]

Krish does not explicitly disclose

- **A face region detector for detecting a face region of the speaker from the speaker region based on the DCT coefficients, and generating a differential quantization table by distinguishing the detected face region from non-face regions;**

However, in the same field of endeavor **Kato**, discloses **face region detector for detecting a face region of the speaker from the speaker region based on the DCT coefficients, and generating a differential quantization table by distinguishing the detected face region from non-face regions; [Column 4, lines 26-38]**

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the features of, a face region detector for detecting a face region of the speaker from the speaker region based on the DCT coefficients, and generating a differential quantization table by distinguishing the detected face region from non-face regions, as per teachings of **Kato** in to the method as taught by **Krish** in order to provide an efficient method of recognizing a specific area in an image represented by compressed image data; and provide an efficient method of compression control means for controlling the compressed image data based on recognition.[See Kato, column 3, lines 1-7]

6. **As per claims 6 and 14 the combination of Krish and Kato discloses a method as applied to claims above, Furthermore, Krish discloses the method, further comprising a variable length coder for performing variable length coding on the DCT coefficients differentially quantized by the quantizer. [column 6, lines 28-38] (Next, the resulting 8.times.8 block of quantized DCT coefficients is received by a coder, e.g., variable length coding module 180 via signal connection 171, where the two-dimensional block of quantized coefficients is scanned in a "zig-zag" order to convert it into a one-dimensional string of quantized DCT coefficients. Variable length coding (VLC) module 180 then encodes the string of quantized DCT coefficients and all**

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side-information for the macroblock such as macroblock type and motion vectors into a valid data stream.)

7. **As per claims 7 and 15 the combination of Krish and Kato discloses a method as applied to claims above, Furthermore, Krish discloses the method,** further comprising: a dequantizer for performing dequantization on the DCT coefficients differentially encoded by the quantizer; an inverse discrete cosine transform (IDCT) section for performing IDCT on the dequantized DCT coefficients; and a motion compensator for compensating for motion of the individual by comparing an IDCT-transformed previous input video signal with an IDCT-transformed input video signal. [column 3, lines 14-30 and see figure 1, column 6, lines 19-38]

8. **As per claims 8 and 16 the combination of Krish and Kato discloses a method as applied to claims above, Furthermore, Krish discloses the method, wherein the motion compensator calculates the motion vector for an input video signal based on the motion-compensated video signal from the motion compensator.**[Column 5, lines 33-39] (The input image on path 112 is also received into motion estimation module (ME) 140 for estimating motion vectors. A motion vector is a two-dimensional vector which is used by motion compensation to provide an offset from the coordinate position of a block in the current picture to the coordinates in a reference frame.)

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.(See PTO-Form 892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samson B Lemma whose telephone number is 571-

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272-3806. The examiner can normally be reached on Monday-Friday (8:00 am---4:30 pm).

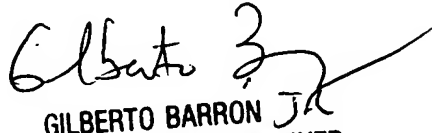
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BARRON JR GILBERTO can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-873-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAMSON LEMMA

S.L.

11/05/2006


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